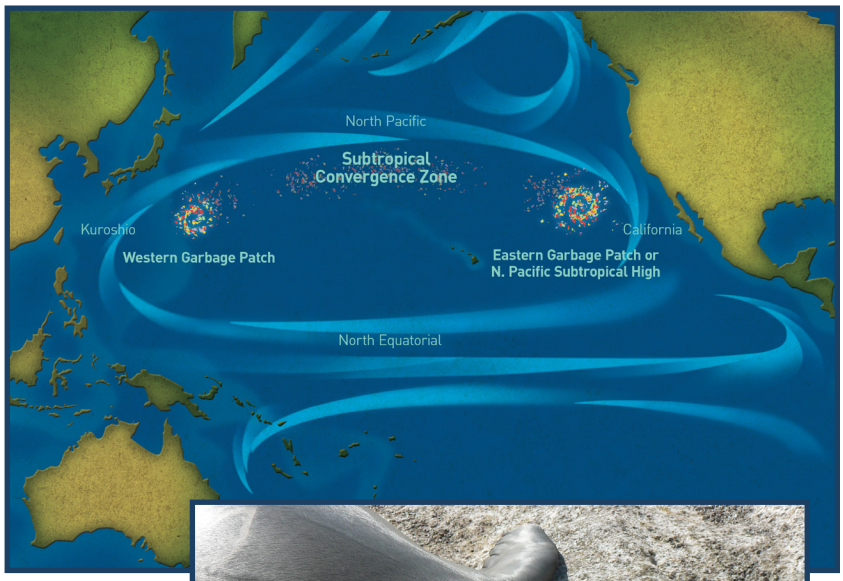
Facts About Marine Debris & How You Can Help

What is marine debris?

Marine debris is any persistent solid material that is manufactured or processed and directly or indirectly, intentionally or unintentionally, disposed of or abandoned into the marine environment or the Great Lakes.



Where does it come from?

- Land (e.g., from roadways to storm drains, canals, streams, and rivers, out to the ocean)
- Ocean (e.g., from a boat or platform into the ocean)

What are the impacts?

- Eyesore on beaches
- Habitat damage
- Wildlife entanglement
- Ingestion by wildlife
- Vessel damage and navigation hazard
- Human health and safety
- Alien species transport

Marine debris of all sorts are a hazard to marine life such as this endangered Hawaiian monk seal. *Photo courtesy of J. Higgins, NOAA PIFSC, permit MMPA-ESA848-1365.*

What are the "garbage patches"?

The "garbage patches" are areas of marine debris concentration (due to oceanographic features) in the North Pacific Ocean. The term "garbage patches" is a misnomer. There is no island of trash forming in the middle of the ocean nor a blanket of trash that can be seen with satellite or aerial photographs. This is likely because much of the debris found here is small bits of floating plastic not easily seen from a boat. Keep in mind that these oceanographic features change in size, location, and strength throughout the year.

The "eastern garbage patch" lies within the North Pacific Subtropical High, an area between Hawaii and California. The "western garbage patch" may lie within a small recirculation gyre near the Kuroshio current off the coast of Japan.

For more information visit: http://marinedebris.noaa.gov/info/patch.html

www.MarineDebris.noaa.gov

Marine debris litters the shores of Kamilo on the southeast coast of the Big Island of Hawai'i.

Plastic debris and pollutants

What we know:

- Persistent organic pollutants (e.g., PCB) are in the water.
- Studies show plastic debris can transport organic contaminants in the oceans.
- Plastics are ingested by sea life.

What we don't know:

- Do pollutants come off of the plastic debris and enter the organism once the debris is ingested?
- Are there marine food web impacts?

NOAA, with the University of Washington-Tacoma, coordinated two international research workshops (Sept. 2008 and Nov. 2010) to help shed light on this issue. This partnership continues to grow, as does work in this area.

Do plastics degrade in the ocean?

Based on research to date, most commonly used plastics do not ever fully "go away*," but rather break down into smaller and smaller pieces (A. Andrady, pers. comm.). Also keep in mind that many of the bio-based and truly biodegradable plastics break down in a compost pile or landfill, but not necessarily in the ocean.

** Here, "go away" refers to a process called mineralization, or the full conversion of all breakdown products into carbon dioxide, water, and small inorganic molecules (Andrady, 2003).*

For more information visit: http://marinedebris.noaa.gov/info/plastic.html

How YOU Can Help!

No matter how close to or far from the ocean, you can contribute to the solution!

- Get involved! Participate in beach or stream cleanups in your area!
- Dispose of your trash properly!
- Remember that our land and sea are connected. Trash that enters streams or rivers eventually makes its way to the ocean.
- Reduce the amount of waste you produce.
- Reuse items whenever possible! Chose reusable items over disposable ones!
- Recycle as much as possible! Bottles, cans, bags, cell phones, and many other items can be recycled.
- Recycle your fishing line or throw it away in the proper place!

For more information visit www.MarineDebris.noaa.gov

Search "NOAA Marine Debris"

Blog reader? Check out http://marinedebrisblog.wordpress.com

Andrady, Anthony. 2003. Plastics and the Environment. New Jersey: John Wiley & Sons, Inc.
Andrady, Anthony. 2009. Personal communication. Research Triangle Institute (RTI) International.